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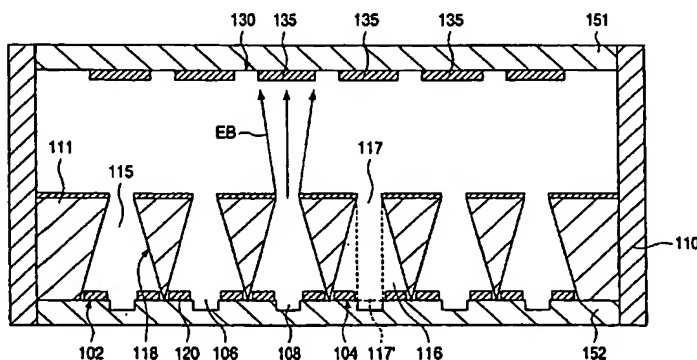
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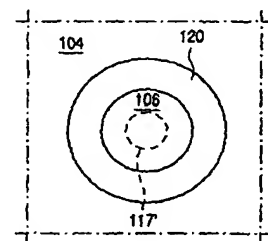
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[Continued on next page]

(54) Title: **VACUUM DISPLAY DEVICE WITH REDUCED ION DAMAGE**



A



B

(57) Abstract: A display device has a display screen for displaying image information, and cathode means comprising an emitter material for emitting electrons. The emitted electrons are collected by an electron concentrator which redistributes the electrons in a homogenous electron beam (EB). The emitter material is arranged on a first surface excluding a first impact area on which positive ions land that pass through the electron concentrator. Therefore, substantially no emitter material is provided at the first impact area, so that damage inflicted on the cathode means by the positive ions is reduced. Preferably, the display device has a pumping chamber between the cathode means and a back plate, for removing residual gases from the display device.



ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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## A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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P,X	WO 02 097845 A (VAN DER POEL WILLIBRORDUS A J ;VAN GORKOM GERARDUS G P (NL); KONIN) 5 December 2002 (2002-12-05) the whole document figure 1 ---	1,10
X	WO 97 09734 A (PHILIPS ELECTRONICS NV ;PHILIPS NORDEN AB (SE)) 13 March 1997 (1997-03-13) the whole document figures 1,2 ---	1,11
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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